

CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

- 1 1. A media storage device for storing and providing access to data media in a data storage system comprising a data exchange device configured to exchange data stored on the data media and a media handling system configured to transfer the plurality of data media between the media storage device and the data exchange device, the media storage device comprising a housing configured to receive the data media, the housing having a first elongate alignment groove adapted to slidably engage with a corresponding first elongate reference rail located adjacent an opening in a data storage system such that the media storage device may be inserted and removed by slidably engaging the first elongate reference rail and the first elongate alignment groove.
- 1 2. The media storage device of claim 1, further comprising a locking plate attached to the housing and configured to engage a locking mechanism located in the opening in the data storage system.
- 1 3. The media storage device of claim 1, wherein the housing has opposing top and bottom portions, one of which has the first elongate alignment groove that is adapted to slidably engage the first elongate reference rail and the other which has a second elongate alignment groove that is adapted to slidably engage a second elongate reference rail.

1 4. The media storage device of claim 1, wherein the housing is molded from plastic.

1 5. The media storage device of claim 1, wherein the housing further comprises a
2 handle operationally attached to the housing and configured to enable an operator to apply
3 a force substantially parallel to the first elongate alignment groove such that when the
4 first elongate alignment groove engages the first elongate reference rail the media storage
5 device may be inserted and removed from the data storage system.

1 6. The media storage device of claim 3, wherein the housing has a side portion that
2 has a plurality of slots configured to receive the data media.

1 7. The media storage device of claim 3, further comprising:
2 a spring mechanism comprising a first end and a second end, the first end being
3 operationally attached to the top portion of the housing; and
4 a finger attached to the second end of the spring mechanism and extending into
5 the plurality of slots,
6 wherein the spring mechanism and the finger are configured to engage the data
7 media when received with the plurality of slots.

1 8. The media storage device of claim 6, wherein the plurality of slots are defined by
2 a plurality of dividers positioned in spaced-apart relation within the housing so that the
3 plurality of dividers are substantially parallel to the axis of the elongate slot.

1 9. The media storage device of claim 7, wherein the spring mechanism comprises a
2 metallic strip.

1 10. A method of storing data media in a data storage system, the data storage system
2 comprising a data exchange device configured to exchange data stored on the data media
3 and a media handling system configured to transfer the data media between a media
4 storage device and the data exchange device, the method comprising the steps of:

5 locating the data media within the media storage device, the media storage device
6 configured to receive the data media and having a first elongate alignment groove; and
7 inserting the media storage device into an opening in the data storage system by
8 engaging the first elongate alignment groove with a first elongate reference rail located
9 adjacent the opening in the data storage system and applying a force in a direction
10 substantially parallel to the first elongate alignment groove.

1 11. The method of claim 10, further comprising the step of locking the media storage
2 device in the data storage system by engaging a lock plate attached to the media storage
3 device with a locking mechanism in the data storage system.

1 12. The method of claim 10, wherein the media storage device has opposing top and
2 bottom portions, one of which has the first elongate alignment groove that is adapted to
3 engage the first elongate reference rail and the other which has a second elongate
4 alignment groove that is adapted to engage a second elongate reference rail located
5 adjacent the opening in the data storage system.

1 13. The method of claim 10, wherein the step of locating the data media within the
2 media storage device comprise the step of applying a retention force to the data media
3 when the data media are located within the media storage device.

1 14. The method of claim 10, wherein the step of locating the data media within the
2 media storage device comprises the step of inserting the data media in a plurality of slots
3 located in a side portion of the media storage device.

1 15. A media storage device for storing and providing access to data media in a data
2 storage system comprising a data exchange device configured to exchange data stored on
3 the data media and a media handling system configured to transfer the data media
4 between the media storage device and the data exchange device, the media storage device
5 comprising a housing configured to receive the data media, the housing having a means
6 for slidably inserting and removing the media storage device within an opening in a data
7 storage system by engaging the media storage device with an elongate reference rail
8 located adjacent the opening in the data storage system.

1 16. The media storage device of claim 15, further comprising a means for locking the
2 media storage device within the opening in the data storage system.

1 17. The media storage device of claim 15, wherein the means for slidably inserting
2 and removing the media storage device is a first elongate alignment groove in the
3 housing.

1 18. The media storage device of claim 15, wherein the means for slidably inserting
2 and removing the media storage device involves a first elongate alignment groove in a top
3 portion of the housing and a second elongate alignment groove in a bottom portion of the
4 housing.

1 19. The media storage device of claim 15, wherein the housing is molded from
2 plastic.

1 20. The media storage device of claim 15, further comprising a means for applying a
2 force substantially parallel to the first elongate alignment groove such that when the
3 means for slidably inserting and removing the media storage device engages the elongate
4 reference rail the media storage device may be inserted and removed from the opening in
5 the data storage system.